

**REMARKS**

Claims 33-65 are pending in this application. Claims 33-35 are amended in several particulars for purposes of clarity in accordance with current Office policy, to assist the examiner and to expedite compact prosecution of this application. Claims 36-65 have been newly added. Claims 1-32 have been canceled without prejudice or disclaimer of its subject matter.

It is assumed that the Amendments filed 6/25/04 and 4/25/05 have not been entered. Accordingly, the forgoing Amendment should replace the 6/25/04 and 4/25/05 Amendments because of the change in dependency of claims 59 (from 57 to 58) and 65 (from 54 to 60) to avoid a lack of antecedents in claimed subject matter.

Claims 33-35 were rejected under 35 U.S.C. §112, first and second paragraphs based upon the use of the term "rapid deflagration cord." The applicant respectfully traverses this rejection for the following reason(s).

The Examiner alleges that the metes and bound of the invention are undefined because the claims are apparently vague, indefinite and incomplete as to what all materials or compositions are meant by and encompassed by the term "rapid deflagration cord."

The term "rapid deflagration cord" is used in, for example, twenty (20) U.S. patents, some of which use the term in the claims without defining what all materials or compositions are meant by and encompassed by the term "rapid deflagration cord." The following is a definition provided

by MSI (McCormick Selph, Inc.: see <http://www.mcselph.com/linearexplosives.html> (attached)):

**Rapid Deflagration Cord (RDC)** is a very unique product manufactured by MSI. This material can be supplied in a wide variety of configurations and metal sheaths to meet specific customer requirements. RDC is non-detonating and burns at a rate of approximately 1000 ft/sec. Functional throughout the temperature range of -200 °° to +370 °° C, RDC has been successfully subjected to high temperature storage of 5000 hours at +205 °° C. RDC can be incorporated into a variety of applications such as satellite rocket motor ignition, propellant activation systems and in distribution systems for dispensing tactical munitions applications.

Accordingly, "rapid deflagration cord" is a generic term and is well known in the art. There is no requirement that patent application, or claims, set forth all materials or compositions are meant by and encompassed by the generic term "rapid deflagration cord," especially since one maker of such a cord defines the term as having a wide variety of configurations.

Additionally, there is no requirement under § 112, paragraph 2, to make a distinction between rapid deflagrating materials and mild detonating materials, since the claims do not call for mild detonating materials. Note that U.S. Patent No. 6,467,415 (of record) claims for "metal-sheathed linear explosive being selected from any of a linear shaped charge, a mild detonating cord and a rapid deflagration cord." If there were no difference between a mild detonating cord and a rapid deflagration cord, an argument could possibly be raised about indefiniteness; however a patented claim is considered valid by the PTO. Note also, the following is a definition is also provided by MSI (McCormick Selph, Inc.):

**Mild Detonating Cord (MDC)** is metal clad linear explosive usually drawn or extruded in a round configuration. It can be rolled into an elliptical or flat ribbon shape based on customer requirements. Typically, grain sizes vary from 2.5 gr/ft to 100 gr/ft but can be adjusted to fit customers specification requirements. MDC can be supplied in aluminum, tin, lead or silver sheath.

Accordingly, it is considered to be known in the art that rapid deflagration cord and mild detonating cord are different products, and as such, the present application and claims need not define the difference.

Further, the invention is for an energy transfer line system, comprising a rapid deflagration cord (RDC). The invention is **not** a rapid deflagration cord (RDC). Accordingly, any RDC on the market can be utilized by the claimed energy transfer line system.

Accordingly, the rejections are deemed to be in error and should be withdrawn.

The Examiner also refers us to MPEP 2173.05(u) which refers to the use of a "trademark or trade name" as a claim limitation. First, note that there is no trademark for a rapid deflagration cord (RDC), and the Examiner has not provided any showing that such a trademark exists.

Accordingly, since the term a rapid deflagration cord (RDC) is not a trademark, and is accepted by the PTO as evidenced by the 20 patents containing the term as a generic term in the art, it is not a trade name. It should also be noted that the term is in wide use throughout the U.S. Patent & Trademark Office and is set forth in the claims of at least four (4) U.S. patents (6,467,415; 6,435,095; 5,518,268; 5,406,889) two of which are assigned to MSI.

Accordingly, since the PTO has already demonstrated acceptance of the term rapid deflagration cord in valid claims, and the term is not trademarked, then the rejections under §112,

paragraphs one and two should be withdrawn.

Also, claims 33-35 have been amended to change the term "rapid deflagration cord" to --rapid deflagrating cord--. Support for the tem --rapid deflagrating cord-- is found in paragraph [0002]. Additionally, claim 33 (original) mistakenly claimed a first loaded end fitting disposed at said first end of said transfer line, a first ferrule connecting said first end of said transfer line to said first loaded end fitting, and a closure cup having a rim welded to said first ferrule. As can be seen from Figs. 4, 10 and 20 the loaded end fittings include a ferrule and a closure cup (Figs 10 and 20). Accordingly, it is erroneous to claim the ferrule and the closure cup as components separate from the loaded end fitting. This has been corrected by the amendment to claim 34.

Claim33-35 were rejected under 35 U.S.C. §103(a), as rendered obvious and unpatentable, over Alchron et al. (*hereafter*: Alchron) in view of Hadden or Smith. The Applicant respectfully traverses this rejection for the following reason(s).

Alchron fails to disclose or teach a *rapid deflagrating cord*. Although Alchron teaches using a deflagrating cord, it is well known in the art that not all deflagrating cords are the same. Note that Hadden discusses the use of a **low velocity** deflagrating material which is known to differ from a **rapid** deflagrating cord as a **rapid** deflagrating cord is known to burn faster than a general deflagrating cord.

Note that there is no teaching in Hadden that the end fittings described therein are appropriate

for use with rapid deflagrating cords.

Note also that Smith describes end fittings for detonating cords. There is no teaching in Smith that the end fittings are appropriate for use with any deflagrating cords, particularly rapid deflagrating cords.

Accordingly, one of ordinary skill in the art would have been motivated to use either Hadden's or Smith's end fittings in Alchron only if the cord used by Alchron is a low velocity deflagrating cord or a detonating cord, respectively.

If one of ordinary skill in the art were motivated to use a rapid deflagrating cord in Alchron, since rapid deflagrating cords are known in the art, there is no teaching in either of Hadden or Smith to motivate one of ordinary skill in the art to utilize the end fittings of either Hadden or Smith with a rapid deflagrating cord. There is only a teaching in Hadden of use with a low velocity deflagrating cord, and in Smith of use with a detonating cord.

Accordingly, the rejection of claims 33-35 is deemed to be in error and should be withdrawn.

Despite the Applicant's attempt to have claims 1-5, 8-10, 23-26, 29-30 and 33-35 examined on the merits with respect to the Applicant's elected specie, the Examiner has only examined claims 33-35.

As noted by the Applicant, claim 33 is generic to all the disclosed species. Accordingly, when it is determined that a generic claim is patentable over the art, then the restriction/election requirement is to be withdrawn (MPEP 804.01(C)) and all the claims are to be examined on the merits. 37 CFR 1.141 states: Two or more independent and distinct inventions may not be claimed

in one national application, **except that more than one species of an invention**, not to exceed a reasonable number, may be specifically claimed in different claims in one national application, provided that application also includes an allowable claim generic to all the claimed species and all the claims to species in excess of one are written in dependent form (Section 1.75) or otherwise include all the limitations of the generic claim.

The Examiner has provided no argument indicating that claim 33 is not generic. Should the Examiner now attempt to argue otherwise, it is requested that the Examiner identify the species to which claim 33 is not generic. Additionally, new claim 54 is generic. The subject matter of amended claim 33 and new claim 54 is not taught by the prior art.

It should be noted here that the basis of the Applicant's invention is the transfer line 300 as described with respect to Figs. 1-3. The loaded end fittings (Fig. 4, Fig. 10 and Fig. 20) are additional components which are combined with the transfer line. Claims 33-65 set forth the invention as outlined above.

The Examiner has indicated, in the Office Communication (Paper No. *unnumbered*), mailed 23 March 2005 and in Office Communication (Paper No. *unnumbered*), mailed on 27 July 2005, that the Applicant fails to identify which of the newly added claims read on the elected species, wherein the Applicant provisionally elected (I) the semi flexible tubing of FIG. 3 having a percussion primer end fitting (FIG. 4) at a first end of the semi flexible tubing and a standard HE end fitting (FIG. 20) at a second end of the semi flexible end fitting, where the first end of the PP end fitting being absent

any transfer manifold and the second end with the standard HE end fitting being lodged in a three port manifold, where the other two ports have a standard LE end fitting and a standard HE end fitting respectively. Claims 33-35 have been examined based on the provisional election.

Additionally, the Examiner required in the Restriction that Applicant furnish the Examiner a listing of which of the original 35 claims read on Applicant's elected specie. Applicant respectfully submitted that claims 1-5, 8-10, 23-26, 29-30 and 33-35 both 1) read on and 2) were generic to Applicant's elected specie.

The Examiner disagreed with the Applicant's claim listing and took it upon himself to determine that only original claims 33-35 read on the elected species. See page 4 of the 3/30/04 Office action.

Accordingly, we note that neither a percussion primer end fitting, nor a standard HE end fitting, nor a manifold were claimed in claim 33.

Original claim 33 called for, in part, a Rapid Deflagration Cord (RDC) extending from a first end and a second end of a transfer line; a first metal tubing hermetically encapsulating said RDC; a first loaded end fitting disposed at said first end of said transfer line; and **a second loaded end fitting disposed at said second end of said transfer line.**

New claim 36 calls for *a second loaded end fitting disposed at said second end of said transfer line, said second loaded end fitting having a second ferrule connecting said second end of said transfer line to said second loaded end fitting.* Accordingly, claim 36 is directed towards the *second loaded end fitting* that was originally claimed, and examined, in claim 33.

Therefore, since the Examiner has already examined the feature of claim 36, there is no

reason not to examine claim 36 now, as there is clearly no serious burden placed on the examiner for examining a feature already examined. As stipulated in MPEP §803, if the search can be made without serious burden, the examiner must examine it on the merits.

In the office communication of 7/27/2005, the Examiner argues that claim 36 cannot possibly read on the elected specie since it requires the second end of the transfer line to be connected to a three-port manifold.

However, claim 36 is dependent on claim 34, which mentions a first loaded end fitting having a ferrule. This can be generic to a PP or HE which are provisionally elected. Therefore, one cannot assume that the second ferrule has to be a HE. Therefore, one cannot assume that a 3-port manifold must be connected. Therefore, claim 36 reads on the provisionally elected specie as claim 36 mentions the second loaded end fitting which is included in the provisional election of the specie.

Concerning claim 37, the ferrule is crimped in both the PP in figure 4 at point 430 and in HE in figure 20 at reference 2070. Therefore, again, claim 37 reads on the provisionally elected specie.

In addition, respectfully, since the Examiner by himself decided to only review claims 33-35, he must at least abide by his own decision. Since the original claim 33 has already been examined, the Examiner is then required by MPEP§803 to examine claim 36 no matter if claim 36 is provisionally elected or not since then it no longer a serious burden.



Likewise, claim 37 should also be examined on the merits, wherein claim 37 depends from claim 36.

The Examiner suggests that claim 38 is specific to a loaded LE end fitting instead of a percussion primer (PP) end fitting, and erroneously suggests that the claimed *loaded end fitting* is not an LE end fitting.

Original claim 33 called for a *first loaded end fitting disposed at said first end of said transfer line; a first ferrule connecting said first end of said transfer line to said first loaded end fitting; and a closure cup having a rim welded to said first ferrule.*

The Applicant fails to see any specific feature holding the first loaded end fitting to be specific to a PP end fitting instead of an LE end fitting.

Original claim 33 also called for a *second loaded end fitting disposed at said second end of said transfer line.* Accordingly, it is possible that the second end fitting comprise a PP end fitting while the first end fitting comprised an LE end fitting.

It should be clear, however, that original claim 33 was a **GENERIC** claims, thus the first end and second loaded end fittings may be any one of the PP end fitting, the LE end fitting and the HE end fitting.

Evidence of the foregoing is found in claims 45, 46 and 57.

In the office communication of 7/27/2005, the Examiner objected to the election of claims 38 and 43 since he asserts again that claims 38 and 43 recite LE end fitting whereas the elected

species is percussion primer.

The Examiner needs to note the limitations of claim 33 does not say PP. PP is only mentioned in claim 44 but not in claim 33. Therefore, assuming that one end is PP and the other is HE as provisionally elected, Claim 33 can also refer to HE and if it does, then one must look to figure 20 which states ferrule 2030. The Specification concerning figure 20 in paragraph 86 on pages 23-25, for example also state "The rim of stainless steel interface retainer 2045 is welded, preferably by a laser beam weld 2095 to the exterior of ferrule 2030. The rim of closure cup 2085 is welded, preferably by laser beam weld 2015 to an outside annular surface of ferrule 2030 directly underneath annular stainless steel retainer 2045." Figure 20 for the HE also includes a booster charge 2050. Therefore, the Examiner is incorrect in that the features of claim 38 are in LE only and that such features are also in HE which the generic claim 33 and is mentioned in the provisional election where one end can be HE.

Moreover, concerning claim 43, as seen in figure 20, spit hole 2060 is also shown and described in the specification.

Therefore, with such traversal the provisional election of claims 38 and 43 has not been removed and must be examined on the merits.

However, such a position by the Examiner is therefore, petitionable since the Examiner must still Examiner claims 38 and 43 even if they are not provisionally elected.

Accordingly, in view of the Election, the Applicant maintains that claims 33--49, 52, 53, 54-57 and 62-65 read on the elected invention. Claims 47-49, 58 and 59 are specific to the PP loaded

end fittings. Claims 52, 53, 62 and 63 are specific to the HE loaded end fittings.

Whereas, claims 50, 51, 60 and 61 are specific to the non-elected LE loaded end fittings. However, as stipulated in MPEP §803, if the search can be made without serious burden, the examiner must examine it on the merits. The Examiner has not shown that there is any serious burden in examining claims drawn towards the LE loaded end fittings.

Moreover, the Applicant has made a bonafide response in providing the claims to the elected species. However, because the Examiner did not agree with the opinion of the Applicant, the Examiner chose twice to provide an office communication of non-response toward such points because the Examiner had a differing opinion, rather than examining the claims, thus heavily delaying the Applicant.


As indicated above, since at least claim 33 is generic, and is deemed to be patentable over the applied art, then an examination of claim 33 with an eye towards the LE loaded end fittings should be made to ensure that there is no art with LE loaded end fittings disclosing the features of claim 33.

The examiner is respectfully requested to reconsider the application, withdraw the objections and/or rejections and pass the application to issue in view of the above amendments and/or remarks.

In view of the foregoing amendments and remarks, all claims are deemed to be allowable and this application is believed to be in condition to be passed to issue. If there are any questions, the examiner is asked to contact the applicant's attorney.

A fee of \$1,020.00 is incurred by filing a petition for three-month extension of time. Applicant's check drawn to the order of the Commissioner accompanies this Amendment. Should there be a deficiency in payment, or should other fees be incurred, the Commissioner is authorized to charge Deposit Account No. 02-4943 of Applicant's undersigned attorney in the amount of such fees.

Respectfully submitted,



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